UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,324	01/04/2002	H. William Bosch	029318-0107	2223

31049 7590 12/06/2006

ELAN DRUG DELIVERY, INC.
C/O FOLEY & LARDNER LLP
3000 K STREET, N.W.
SUITE 500
WASHINGTON, DC 20007-5109

EXAMINER	
HAGHIGHATIAN, MINA	

ART UNIT	PAPER NUMBER
1616	

DATE MAILED: 12/06/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/035,324	BOSCH ET AL.	
	Examiner	Art Unit	
	Mina Haghighatian	1616	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *08 September 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-14* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-14* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Receipt is acknowledged of Remarks filed 09/08/06. No claims are amended or cancelled. Accordingly claims 1-14 are pending.

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedmann et al (5,747,001) in view of Tabibi et al (6,682,758).

Wiedmann et al teach aerosols containing droplets of an aqueous dispersion of nanoparticles of insoluble beclomethasone particles having a surface modifier on the surface thereof. A suitable surfactant is tyloxapol (see col. 4, lines 49-60), the particles are preferably less than 400 nm in size, or more preferably less than 250 and most preferably less than 100 nm in size (see col. 6, lines 8-15 and col. 10, lines 25-35). The process of making such nanoparticles includes attrition and filteration (see col. 7, lines 18-21). Wiedmann lacks teachings on sterile filteration.

Tabibi et al teach water-insoluble drug delivery systems comprising a water-insoluble drug, a water-miscible organic solvent and a surfactant. Surfactants form vesicles having an average particle size of about 50-200 nm (see col. 3, lines 30-36 and

col. 7, lines 30-35). The formulations can be used as an aerosol (see col. 4, lines 6-10). The said formulations are sterilized by passing each solution through a sterilizing membrane filter. The filter is a 0.22 micron pore rated sterile filter (see col. 7, lines 45-49 and col. 8, lines 1-16).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have implemented the sterile filteration as taught by Tabibi in the formulations and process of Wiedmann, since Wiedmann teaches filteration of a nanoparticles of beclomethasone and tyloxapol. In other words, one of ordinary skill in the art would have been motivated to implement sterile filteration of Tabibi instead of simple filteration of Wiedmann because sterilization of formulations is beneficial to recipients.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedmann et al (5,747,001) in view of Osbakken et al (2002/0061281).

Wiedmann et al teach aerosols containing droplets of an aqueous dispersion of nanoparticles of insoluble beclomethasone particles having a surface modifier on the surface thereof. A suitable surfactant is tyloxapol (see col. 4, lines 49-60), the particles are preferably less than 400 nm in size, or more preferably less than 250 nm and most preferably less than 100 nm in size (see col. 6, lines 8-15 and col. 10, lines 25-35). The

process of making such nanoparticles includes attrition and filteration (see col. 7, lines 18-21). Wiedmann lacks teachings on sterile filteration.

Osbakken teaches aerosolized anti-infectives and anti-inflammatories for the treatment of sinusitis. The process of preparing the formulations includes weighing and measuring each ingredient, adding the ingredients together, mixing with dilutents such as sterile water and filtering with a coarse filter and then a fine filter such as a 0.22 micron filter (see [0104], [0171], [0176], [0198] and [0199]). The steroidal anti-inflammatories include beclomethasone and budesonide (see [0139]).

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have implemented the sterile filteration as taught by Osbakken et al in the formulations and process of Wiedmann, since Wiedmann teaches filteration of nanoparticles of beclomethasone and tyloxapol. In other words, one of ordinary skill in the art would have been motivated to implement sterile filteration as taught by Osbakken et al instead of simple filteration of Wiedmann et al because sterilization of formulations is beneficial to recipients.

Claims 1-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wiedmann et al (5,747,001) in view of Saidi et al (6,241,969).

Wiedmann et al teach aerosols containing droplets of an aqueous dispersion of nanoparticles of insoluble beclomethasone particles having a surface modifier on the surface thereof. A suitable surfactant is tyloxapol (see col. 4, lines 49-60), the particles are preferably less than 400 nm in size, or more preferably less than 250 nm and most preferably less than 100 nm in size (see col. 6, lines 8-15 and col. 10, lines 25-35). The process of making such nanoparticles includes attrition and filteration (see col. 7, lines 18-21). Wiedmann lacks teachings on sterile filteration.

Saidi et al teaches aqueous compositions comprising corticosteroids and a surfactant in a delivery vehicle for pulmonary or nasal administration. The suitable steroids include beclomethasone dipropionate (see col. 6, lines 8-30). Examples 1-5 teach the process of making the said formulations which includes sterilizing the formulation by passing the diluted corticosteroid composition through a 0.22 micron sterile filter.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have implemented the sterile filteration as taught by Saidi et al in the formulations and process of Wiedmann, since Wiedmann teaches filteration of nanoparticles of beclomethasone and tyloxapol. In other words, one of ordinary skill in the art would have been motivated to implement sterile filteration as taught by Saidi et al instead of simple filteration of Wiedmann et al because sterilization of formulations is beneficial to recipients.

Response to Arguments

Applicant's arguments with respect to claims 1-14 have been considered but are not persuasive.

Applicant's argue that Wiedmann does not teach sterile filteration of the composition. It is also stated that "Applicants surprisingly discovered that only tyloxapol would function to stabilize budesonide and beclomethasone at a small enough particle size to be sterile filtered". Furthermore Applicant states that the small size was not obtained using tyloxapol as s surface modifier for other corticosteroids. This is not persuasive because while Applicant is claiming "unexpected findings" here, there are no evidence provided to show this finding. Examples 1-18 disclosed in the specification contain formulations made with tyloxapol and formulations made with other surface modifying agents such as celluloses, polysorbates, etc. Applicants arguments that only tyloxapol and budesonide or beclomethasone formulations are small enough to pass through a 0.2 micron filter is not a proof of novelty. The said examples disclose formulations that are made to particle sizes above 200 nm (0.2 micron) and their inability to be sterile filter through a 0.2 micron filter. It is the Office's position that one of ordinary skilled in the art would have been able to determine that if the particles are larger than the filter pores, they would not pass through. So this is a known fact and not a finding.

Applicant's assertion that, Applicants discovered that only tyloxapol with budesonide or beclomethasone would be small enough to be sterile filtered, is also not

persuasive because Wiedmann teaches formulations comprising nanoparticles of beclomethasone and tyloxapol with an average particle size of less than 400 nm, preferably less than 250 nm and most preferably less than about 100 nm (see cols. 6 and 10). Wiedmann also teaches that separation techniques such as filteration are used (see e.g. col. 7, lines 19-22 and col. 8, lines 50-54). Thus the formulations of Wiedmann meet the formulations of instant claims. Weidmann does not specifically disclose using a sterile filter with pore size of 0.2 micron. However other publications such as Tabibi et al, Osbakken et al and Saidi et al teach the advantages of using a sterile filteration when the filter has pores of about 0.2 micron.

Tabibi et al, for example teach formulations comprising an active agent and a surface active agent, where the particle size is in the range of 50-200 nm and the process of making includes sterilizing using a 0.22 micron pore rated sterile filter (see col. 7, lines 45-50). With or without a secondary reference, one of ordinary skill in the art would have known that sterilizing is advantageous to both the patient and to improve its shelf life. Thus one of ordinary skill would be motivated to modify Wiedmann's process by implementing a sterile filteration instead of simple filteration.

Applicant argues that "simply relying on the formulation as being *beneficial to recipients* does not support a suggestion or motivation to modify the references". However, contrary to Applicant's assertion, it is considered that the motivation to modify is because the modified version is found beneficial. It is also noted that the paragraph bridging pages 6 and 7 of the specification discloses that a 0.2 micron filter is sufficient

to remove essentially all bacteria. Thus it is clearly stated that because of its advantages, a sterile filter with pore size of 0.2 micron is used.

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Mina Haghighatian whose telephone number is 571-272-0615. The examiner can normally be reached on core office hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Johann Richter can be reached on 571-272-0646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Mina Haghighatian
November 30, 2006

Johann Richter, Ph.D. Esq.
Supervisory Patent Examiner
Technology Center 1600